CLAIMS:

1. A matrix display device (10) comprising a plurality of light emitting elements (26), drive means (14, 22) arranged for sub-field addressing of the light emitting elements (26) and characterized by determining means (16) for determining a display load of the device, and control means (18) for dynamically varying a number of sub-fields available for display of an image responsive to said determined display load being below a threshold value.

2. A device as claimed in claim 1 wherein
- the drive means (14, 22) comprises a subfield converter (14) and a matrix display drive means (22), coupled to the subfield converter (14);
- both the subfield converter (14) and the determining means (16) are receiving an incoming video signal (12);
- the determining means (16) comprises means for providing information about the display load to the control means (18);
- the control means (18) is coupled to the subfield converter (14) for dynamically varying the number of subfields available to display the image; and
- the matrix display drive means (22) are coupled to the light emitting elements (26).

3. A device as claimed in claim 2 comprising means (20) for applying partial line doubling and being coupled to the control means (18) to receive information related to the display load and coupled to the matrix display drive means (22), to apply partial line doubling responsive to said display load being determined to be below a threshold value.

4. A device as claimed in claim 2 comprising means (20) for applying dithering and being coupled to the control means (18) to receive information related to the display load and coupled to the matrix display drive means (22) for applying dithering, responsive to said display load being determined to be below a threshold value.

5. A device as claimed in claim 1 and including means (20) for applying partial line doubling responsive to the said display load being determined to be below a threshold value.

6. A device as claimed in claim 1, and including means (20) for applying dithering, responsive to the said display load being determined to be below a threshold value.

7. A device as claimed in claim 1, and determining means (16) comprising processor means for continuously monitoring the display load.

8. A device as claimed in claim 1, wherein the control means (18) is arranged to operate in accordance with the relationship S/L = S0 x L0 wherein S0 and L0 are the maximum number of sustain pulses and the maximum luminance at which the maximum display load occurs and S and L are the number of sustain pulses and luminance when the display load is determined to be under the threshold value.

9. A device as claimed in claim 8, wherein an idle time resulting from the sustain pulses having a number lower than the maximum number of sustain pulses is present after erase pulses positioned after the sustain pulses.

10. A device as claimed in claim 8, wherein an idle time resulting from the sustain pulses having a number lower than the maximum number of sustain pulses is present in between a first and a second portion of the sustain pulses of a subfield.

11. A device as claimed in claim 10, wherein a duplicated subfield is present and the idle time is split between subfields having a same weight.

12. A device as claimed in claim1, wherein the control means (18) is arranged to operate in accordance with the relationship L x (D + C) = L0 x (D0 + C) where L and L0 represent luminance values at the time of display load being below the threshold value and at maximum display load, C is a constant in the order of 0.07 and D and D0 represent display load values at the time of display load being below the threshold value and at maximum display load.

13. A device as claimed in claim 1 wherein the control means (18) is arranged to introduce hysteresis by increasing the number of subfields at a higher value of the display load compared to the display load at which the number of subfields is reduced to the number of subfields before increasing the number of subfields.

14. A method of controlling light output from a matrix display device employing sub-field addressing and comprising determining the display load of the device, and characterized by the steps dynamically varying the number of sub-fields available for display of an image responsive to said display load being determined to below a threshold value.

15. A display apparatus (102) arranged for receiving a video signal (12) and for processing the signal so as to display an image determined by the signal, the image determining a display load within the apparatus, and the apparatus having means (104) for receiving a power supply having regard to the display load, and further having a matrix display device as claimed in claim 1.